

CLAIMS AMENDED UNDER ARTICLE 34

1. (Amended) A projection display device comprising:

5 a storage means for storing a pixel value and a depth value for each of a plurality of pixels constituting a display image;

an acquiring means for acquiring the pixel value and the depth value for each of a plurality of pixels stored in the storage means;

a light output means for sequentially outputting light per pixel according to the pixel value;

10 a reflecting member for reflecting the light sequentially output per pixel from the light output means;

a light guide body that has a light reflecting surface for repeatedly reflecting light reflected by the reflecting member, and guides the light to a position corresponding to the pixel on a projection surface; and

15 a control means for changing an angle at which the light reflected by the reflecting member is incident on the light guide body by driving the reflecting member according to the depth value of the pixel, so as to change a light path length to the projection surface determined depending on the number of times of the repeated reflections according to the depth value of  
20 each pixel.

2. (Amended) The projection display device according to claim 1, wherein the depth value stored for each pixel is stored after calculation based on the pixel value of the pixel.

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3. (Amended) The projection display device according to claim 1 or 2, wherein the control means drives the reflecting member so that the number of times of the repeated reflections increases the larger the depth value.

30 4. (Cancelled)

5. (Amended) The projection display device according to any of claims 1 to 3, wherein

the reflecting member has a reflecting surface for reflecting the light  
5 output from the light output means, and capable of changing an angle relative to a direction of the output light, and

the control means controls the angle of the reflecting surface according to the depth value.

10 6. (Amended) The projection display device according to any of claims 1 to 3, wherein

the reflecting member is supported so as to be rotatable on a rotary shaft, and has a reflecting surface whose angle relative to a direction of the light output from the light output means changes in a circumferential  
15 direction of the rotary shaft, and

the control means rotates the reflecting member to an angle that depends on the depth value.

7. (Amended) The projection display device according to any of claims 1 to 5,  
20 wherein the control means further makes the reflecting member oscillate with an amplitude that depends on the depth value.

8. (Amended) The projection display device according to any of claims 1 to 6, further comprising a light flux adjusting means for changing a light flux  
25 cross-sectional area of the light output from the light output means according to the depth value of each pixel.

9. (Amended) The projection display device according to claim 7, wherein  
the control means drives the reflecting member so that the number of  
30 times of the repeated reflections increases the larger the depth value of each

pixel, and

the light flux adjusting means changes the light flux cross-sectional area of the light output from the light output means so that the light flux cross-sectional area increases the larger the depth value.

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10. (Amended) The projection display device according to claim 1, comprising a correction means for correcting the depth value of each pixel according to the position corresponding to the pixel on the projection surface, wherein

the control means controls the number of times of the repeated  
10 reflections according to the depth value after correction by the correction means.

11. (Amended) The projection display device according to claim 9, wherein

the correction means corrects the depth value so that when the same  
15 depth value is given to one pixel and another pixel, the light path lengths of the light output from the light output means to the projection surface for the one pixel and the other pixel are substantially the same.

12. (Amended) A projection display system comprising a screen that has a  
20 projection surface and a projection display device for projecting an image onto the screen, the projection display device including:

a storage means for storing a pixel value and a depth value for each of a plurality of pixels constituting a display image;

an acquiring means for acquiring the pixel value and the depth value  
25 for each of a plurality of pixels stored in the storage means;

a light output means for sequentially outputting light per pixel according to the pixel value;

a reflecting member for reflecting the light output from the light output means and guiding the light to the light guide body;

30 a light guide body that has a light reflecting surface for repeatedly

reflecting light sequentially output per pixel from the light output means, and guides the light to a position corresponding to the pixel on a projection surface; and

5 a control means that drives the reflecting member so that an angle at which light reflected by the reflecting member is guided to the light guide body depending on the depth value, and changes the number of times the light sequentially output per pixel from the light output means is repeatedly reflected by the light reflecting surface according to the depth value of the pixel, so as to change a light path length to the projection surface according  
10 to the depth value of each pixel.

13. (Amended) The projection display system according to claim 11, wherein the projection surface of the screen is composed of a first reflecting surface for reflecting the light output from the projection display device, and a  
15 second reflecting surface for reflecting the light reflected by the first reflecting surface on a viewing side, the first and second reflecting surfaces being arranged in sheets.

14. (Amended) The projection display system according to claim 12, wherein  
20 the first reflecting surface is substantially horizontal, and the second reflecting surface forms a prescribed angle with the first reflecting surface, and does not directly faces the viewing side.

15. (Cancelled)  
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16. (Amended) The projection display system according to claim 13, wherein the second reflecting surface is divided into a plurality of unit portions, each of which is a curved surface whose center protrudes more than a periphery thereof.

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17. (Amended) The projection display system according to claim 12, wherein the first reflecting surface is divided into a plurality of unit portions whose angle relative to a horizontal surface is selected for each unit portion according to an angle at which the light output from the projection display  
5 device reaches the unit portion.